THE NEON NEWS

A BOMBARDIER'S HOME COMPANION

VOLUME 1, NUMBER 1 SUMMER 1989

NEON TRUE CONFESSIONS No. 1:

The "job from hell" that was a job in hell for a novice bender

(The neon True Confessions column solicits your stories and memories of "jobs from hell," to be printed anonymously here. Letters, tapes and even cryptic notes accepted -- photos, too, should they apply.)

Neon News: Start at the beginning. What did the ad say?

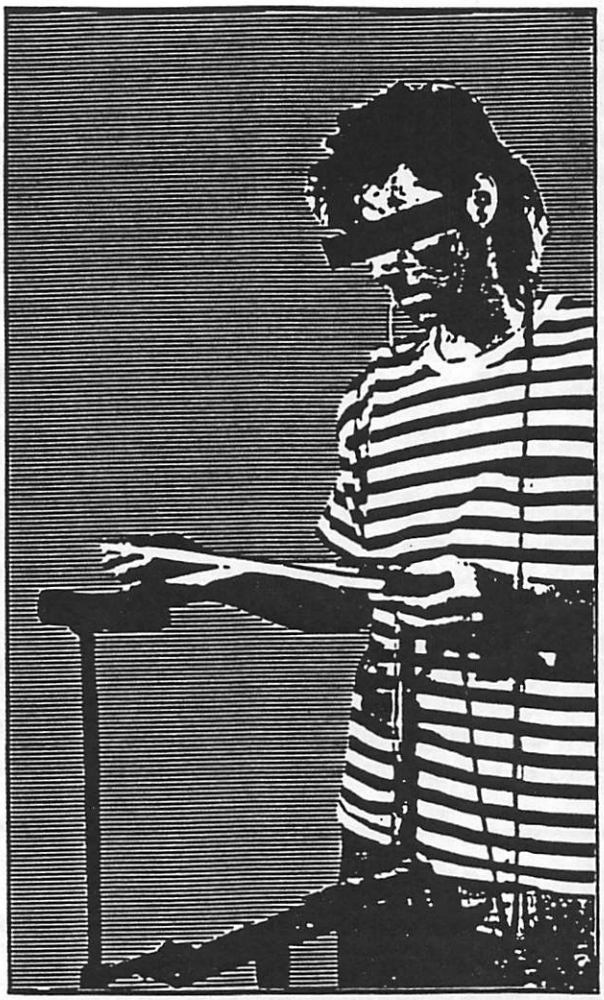
Mr. X: "Wanted, tubebender" plus the location. That's all.

Neon News: It didn't ask for experience?

Mr. X: No. I was just out of school, and wanted to travel, and the head of the school recommended me. When Alan, the shop owner, finally called me back, I told him exactly what I could do and all the things that I could't do. I told him I didn't know how to repair a manifold because I had never seen anybody do it, and had never done that. So he knew exactly what I could do.

Neon News: What else did you tell him?

Mr. X: I told him that I wasn't the best bender in the world but I could do what he needed. Coming out of the neon school, with the diploma, I thought I was suitable for any neon job.



At the airport, we got in the car and he's sort of grumbling "oh, we've got to get the manifold fixed right away, and we've got to put some new flasks on, and we've got a lot of work -- a lot of repairs we've got to get out right away."

So we get back to the shop, and I look around his neon plant and I'm thinking "wow, this is a really nice setup" -- I didn't know any better.

That was on a Friday afternoon, and I spent the weekend bumming around and then came to work Monday and proceeded to spend eight hours trying to get the torches to light. Garden-hose twist knobs, leaky PVC piping -- you could feel the air coming out. It was really frustrating.

The first day I was there the bender who'd just quit came by to get his stuff and said "the flames should be fine -- you shouldn't have to adjust them at all."

So after spending the whole day trying to get the torches to light, I proceeded to change the argon flask, which was my first successful thing.

Coming down to it, I didn't even know to make a straight tube -- I'd never made one before, and that was my first repair. It was Neo-Blue -- and Alan didn't have any in stock so he had to go down the street and borrow a couple sticks from another shop.

(see Job in hell, page 10)

Bending tips: Speeding up slow curves

These are impossible, you say, these long gradual curves and I hate this job and why did I ever get into this in the first place. Well, we didn't get you into this job but maybe we can help get you out of trouble.

There are two types of "long slow curves," those that will be viewed from the side (where it looks like a curve) and those that will be viewed end-on (following the curve of a building, and looking like a straight line). If you have one that gets looked at from all directions, forget it, there's no help for you.

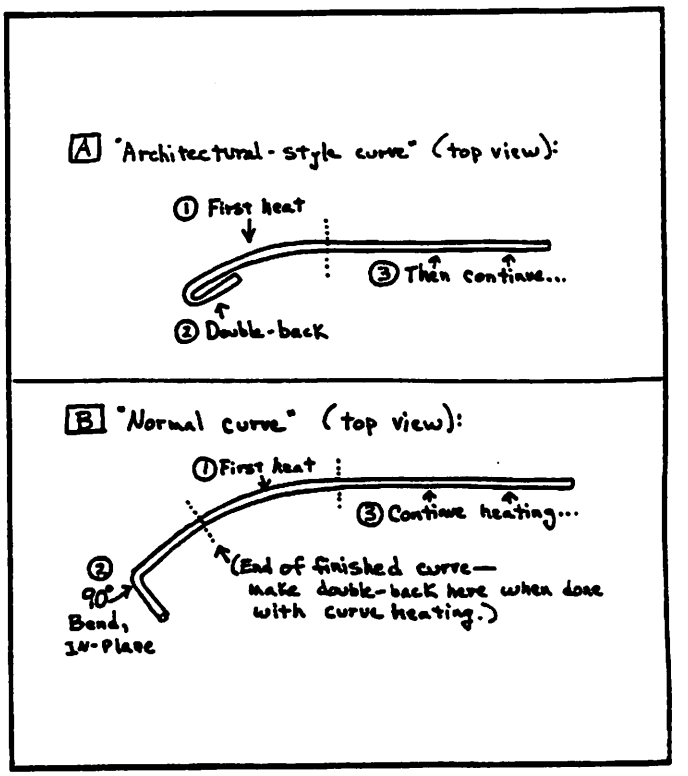
There are two hints here: one for pulling the glass into place and one for keeping it all in plane (avoiding any "corkscrewing").

If the curve of the pattern on the bench arcs away from you like a smile (no smiles allowed) turn it around. Put on a frown of serious concentration and you might find that bending the curve this way is easier.

Heat the glass a minimum amount, and when it's on the table actually pull out, sideways, like you're trying to stretch it out, rather than just bending the glass in the general direction of the pattern. You haven't heated it enough to stretch it significantly and the pulling helps to avoid small kinks.

If this is an architectural-type curve and the electrode will double-back into the same plane as the curve itself, try this:

After the first heat is done and cooled, before going into the next heat of the curve make the double-back. This gives you a point of reference. In order for the curve to "corkscrew," that double-back will have to twist or come off of the table, and as long as your hand is keeping it flat on the table, presto, One Plane. Are we happy now?



If this is a "normal" curve, one where the electrodes come out of the plane, you can still use this technique. It takes a little more glass, enough so that after leaving plenty for your future double-back you make a 90-degree bend in plane.

Intestinal fortitude

Sword swallower cracks up in act

(From the Honolulu Advertiser, 1960)

A sword swallower who downed an 18-inch neon tube, then made the mistake of bending over, was reported in "satisfactory" condition Saturday night at Queens Hospital.

The accident happened while Henry Burns, billed as Jonda the Great, was performing in a side-show at the E.K. Fernandez Circus Friday night.

The tube, a double strip of neon tubing about a half-inch in diameter, was broken in half, and had to be removed at the hospital.

It was the second such accident for the performer, and happened on his first show since his release from the hospital.

The first time, a circus spokesman said, the tube shattered, filling Burns' stomach with bits of glass. This time, however, the broken end of the tube remained in one piece.

Burns is from Long Beach, California. The circus is being sponsored by the Oahu council ofHoly Name Societies.

(Editor's note: With a name like Burns, it's obvious he missed his true calling -- though not by much.)

About this thing in your hands...

The Neon News is published quarterly by Ted Pirsig and Val Crawford, [redacted]. Subscriptions are $15 annually.

Contributors, Vol. 1, #1: Audie Foote, Matt Thompson (cartoons).

Letters, photos, stories and story ideas are all welcome. Deadline for publication is 1 month before mailing -- for the Fall issue, September 15.

Kick out your lighters
and cool off your shop with foot-pedal-controlled torches

Having a foot-switch to turn on (and light) torches is the single best change I've made from a "normal" shop set-up, and it's not that hard to do.

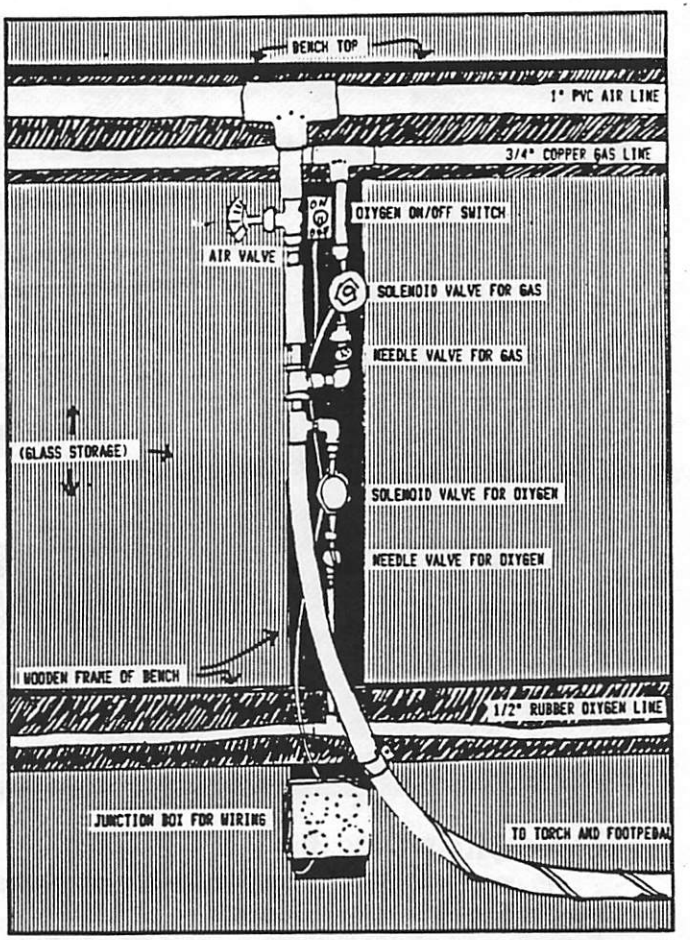
With new plumbing, it took about a day per torch to set up, and our shop (always a bit too hot) is a lot cooler, the gas bill is 1/3 of its former amount and it makes for a safer workplace -- the gas goes off automatically in a power outage, and the flames stay off when not in use. The cost of conversion is fairly minimal too.

There are three parts -- the valve, a spark, and the foot-pedal itself.

First the valve. You need what is called a "solenoid valve," which is a device that will open and close when electricity is applied and removed.

Solenoid valves are in use everywhere in industry and not that hard to come by, although no corner hardware store carries them and it can be a little difficult if you don't know where to look. Usually a wholesale industrial supplier like Graingers will carry them. Look in the phone book under electric motors.

On the telephone you will get intimidating questions like "Normally open or normally closed?" and "What voltage?" You want a 120-volt, normally closed solenoid valve for gas, thread size 1/4" or thereabouts.



Physical mounting of valves and plumbing under workbench, above. Schematic diagram of oxygen-boost valves and switch, below.

If you are using propane, specify propane, and expect things to get expensive, delayed or both. Here in Hawaii we had to wait a month for a special factory-ordered unit to arrive. Propane, the supplier said, causes a peculiar type of deterioration, so special materials have to be used. One month and $70 later we set up our first foot-switch unit.

I decided to chance it with cheaper solenoid valves on our next set-up, and so far (one year later) have had no leaks and only one mildly sticking valve.

The solenoid valve does not replace the main adjusting valve. Think of it as an electronic on-off switch for the gas line. We have ours mounted like so (including a seperate line, valve and solenoid valve for oxygen): (see illustration #1).

With propane, we found that turning up the pressure to 10 p.s.i. worked best -- with too little pressure the turning on-and-off of one torch will affect another's flame. Helpful, too, is a 3/4"-diameter copper pipe for the main gas line -- it acts as a "resevoir" during the momentary surge of turning a torch on. (This is only a problem when there are two or more people using the torches simultaneously).

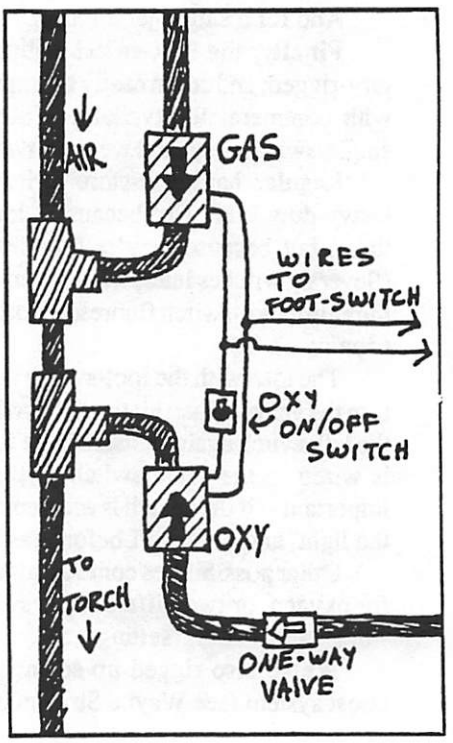
Second, the spark. The blower is always on, but when the gas is turned on there needs to be an ignition spark. The source is a standard neon transformer, and the trick is to get the spark where you need it.

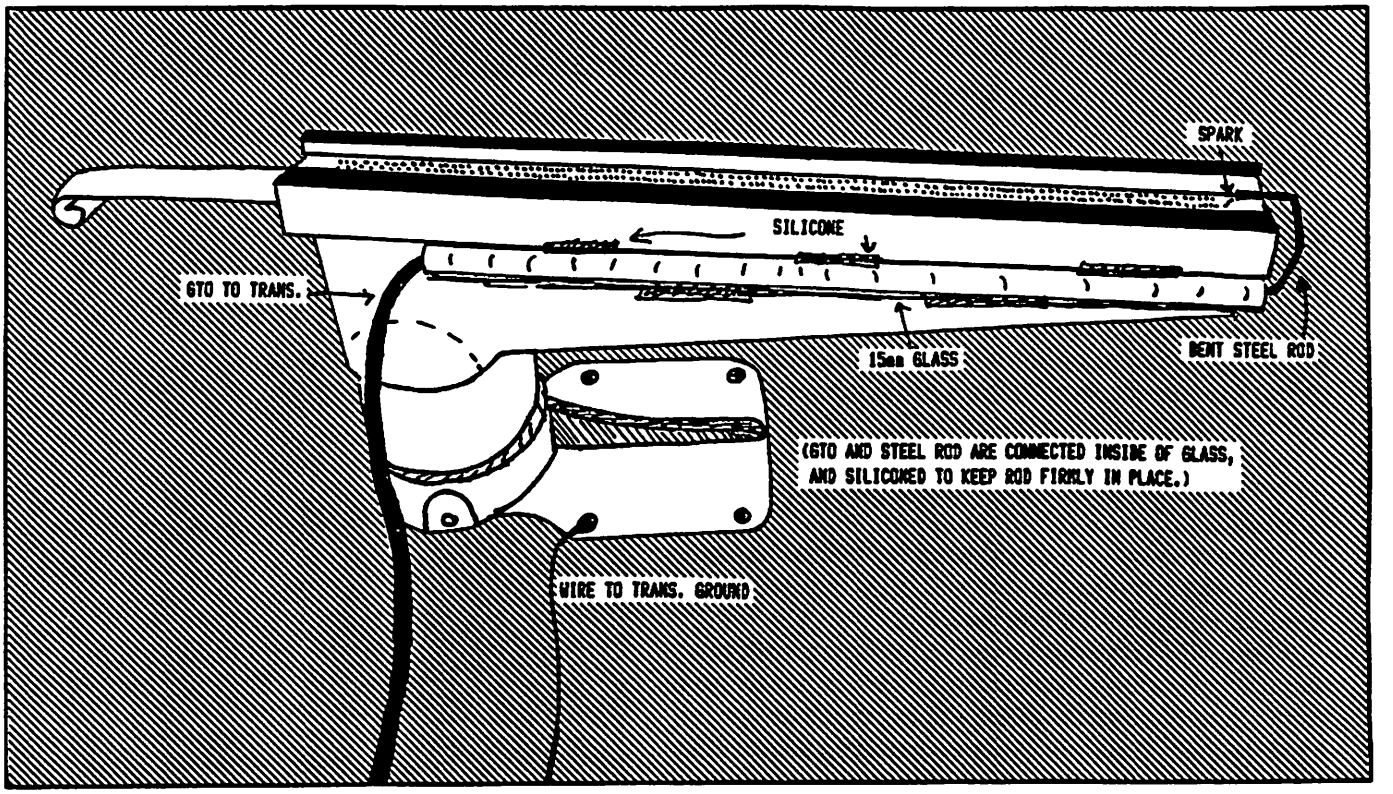
We have currently set up a ribbon burner, a "cannon"-style crossfire and a "hole-popping" single-point torch with sparkers, but not a regular cross-fire (there are too many places that need a spark for this to work).

Materials are:

-Steel rod (1/8" welding rod, coated or plain, works fine)
-Glass tubing, 15 mm
-GTO wire
-"100% silicone rubber" caulking (not silicone latex, siliconized acrylic, etc.)

(see Torches, page 4)




SPARK
SILICONE
GTO TO TRANS.
15mm GLASS
BENT STEEL ROD
(GTO AND STEEL ROD ARE CONNECTED INSIDE OF GLASS, AND SILICONED TO KEEP ROD FIRMLY IN PLACE.)
WIRE TO TRANS. GROUND

(Torches, from page 3)

-- 12,000- or 15,000-volt transformer (the more kicked-around and ancient-looking the better).

To mount and wire a ribbon-burner sparker, see illus. #3 (above).

(If using a larger, mid-point-ground transformer, use the high-voltage spark from one side only, & connect the other side to the transformer ground lug.)

For cannon-style torches, see illus. #6 (next page).

And for a single-jet torch, see illus. #5 (next page).

Finally, the foot-switch, (illus. #4). What we have is jury-rigged, and could easily be improved upon. (The trouble with commercially available foot-switches is that they're single-switch only, and we need two switches on one pedal).

Regular hardware-store switches are O.K. -- get the heavy-duty kind. Not because a lot of power goes through them, but because they're literally getting kicked around. (Several switches later, we've found it helpful to spray-paint the entire foot-switch fluorescent orange, to keep people from tripping on it.)

The idea with the foot-switch is this: hit the left switch to turn the gas on. Then hit the right switch to light the flame. Hit the left switch again to shut off the flame. The small lightbulb is wired to the same switch as the solenoid valve, and is important -- if the switch is accidentally turned on you can see the light, and turn it off before gas fills the room.

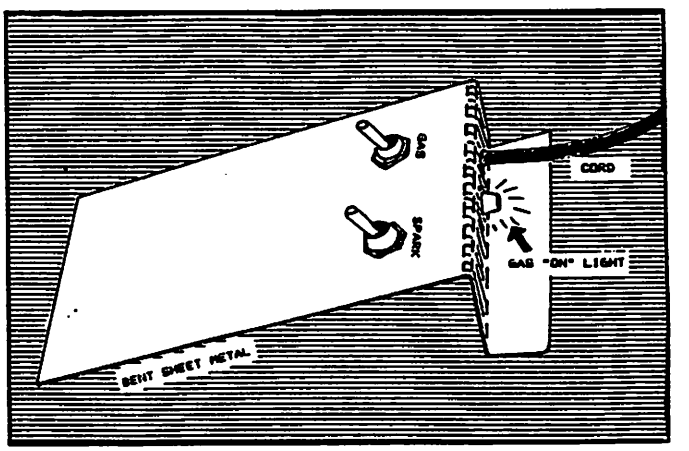
Other possibilities come to mind -- a seperate foot-switch for oxygen, or two different gas switches on one torch, with "hot" and "cold" settings...

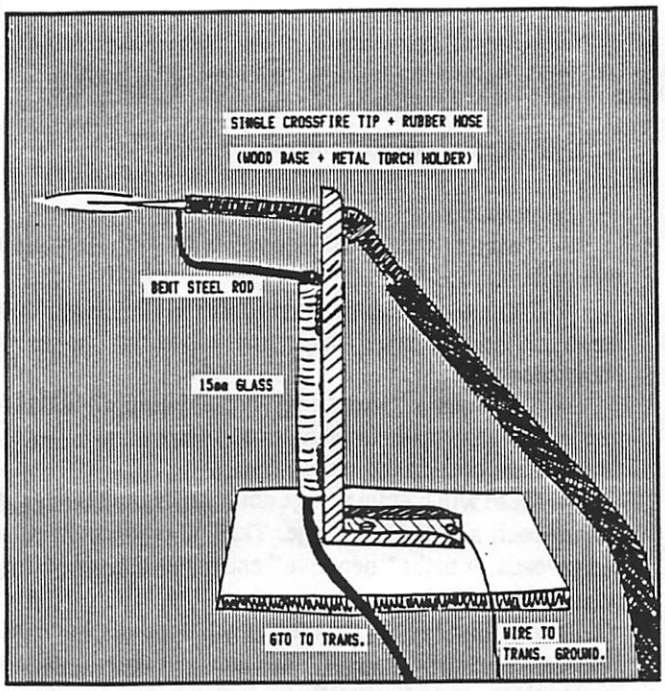
We've also rigged up solenoid valves for our oxygen boost system (see Wayne Straatman's article in Signs of the Times, Dec. '87, for general guidelines) with a bench-mounted switch allowing the oxy-boost to be either on or off, in conjunction with the main foot-pedal. Wire the oxy-boost solenoid valve into the same lines as the gas solenoid valve, and then wire the "on/off" switch as either breaking or completing the connection (see illus. #6).

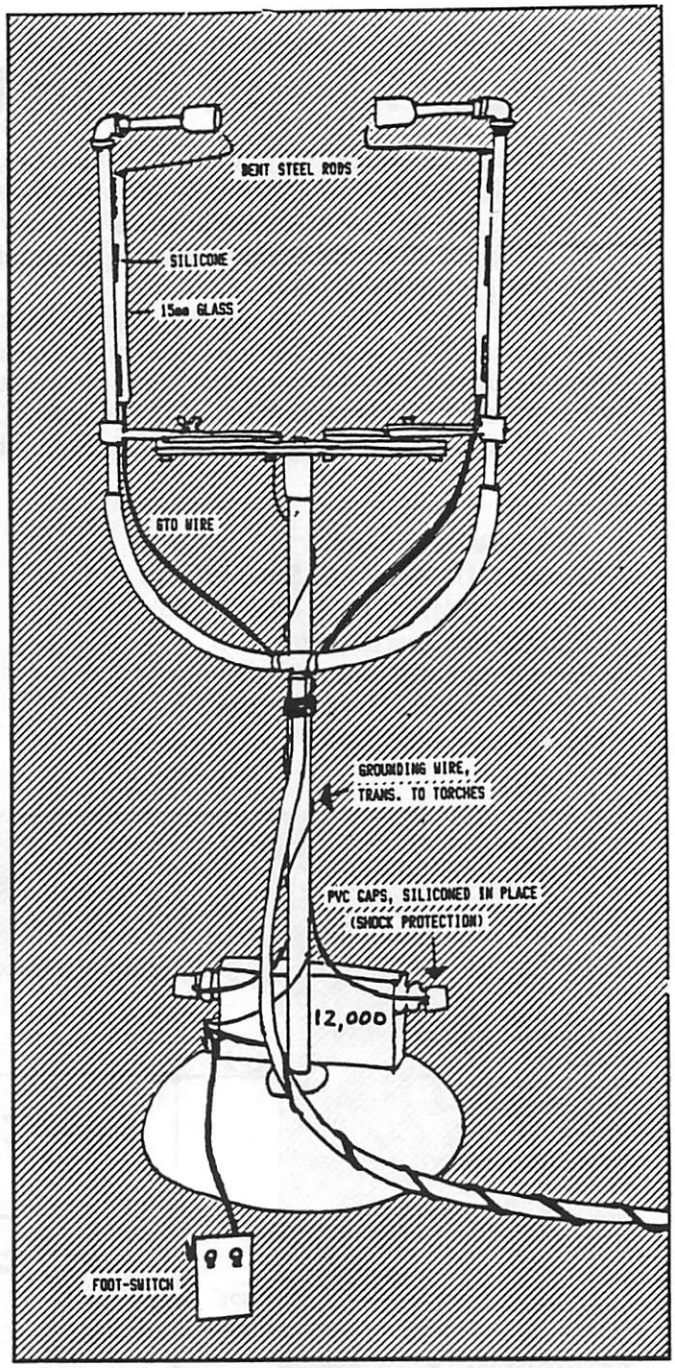
This way when the oxy toggle-switch is turned "on", the oxygen automatically switches on with the foot-pedal. When turned "off" the oxygen stays off while the system works in the normal way. The addition of a one-way valve ($3-$4 at welding supply houses) in the oxygen line prevents a gas-air mixture from travelling down into the line, in the event that the "oxy" switch is left on and gas would otherwise leak out.

(see Torches, page 5)

Ribbon burner modified for foot-pedal ignition, above. Foot-pedal itself, below.





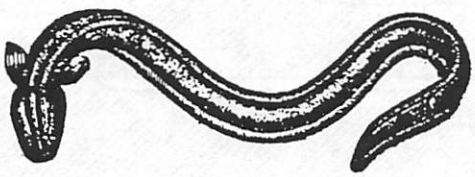


Above, single-point torch modified for foot-pedal ignition. Right, a "cannon"-style torch also modified.

(Torches, from page 4)

Another use of a gas-line solenoid valve is for safety: use a larger unit (5/8" to 3/4" pipe diameter) as an additional "on-off" switch in the main gas line, and wire it into the blower power supply. This way the blower must be on for the gas to be on. (I heard of an incident where the power failed, and the gas backed up into the blower itself. When the power came back on the spark in the blower motor caused an explosion. No one was killed -- the one person present was thrown across the room though -- saved by a sheet of wood that blocked the force of the explosion.)

(Note -- general disclaimer time -- if messing around with gas lines and electricity unnerves you, don't do this. Or have someone else do it. In any case, "we do hereby disclaim any and all responsibility for any damages, deaths, buildings destroyed, neighbors perturbed, etc., resulting from ideas implanted by words in these pages"... good enough?)



Last-minute addendum:

From Calgary's Neon Classics, Jed Vallings wants to know "Where can I buy a neon telephone?"

Matt Thompson (in Hawaii) is wondering if anyone else has been having problems with stress-cracking with Voltarc ultra-blue 12mm.

Cheap 12-volt neon transformers for cars

Here is a way to light up your car with neon using a regular 12-volt automotive ignition coil. The circuit board that drives it has only a few components and is very easy to make. The approximate cost for parts (besides the coil, usually a few dollars at junkyards) is $5.

If you've never tinkered with soldering irons and transistors, yet would like to be able to build these, don't be put off -- most electronic-parts stores have small books covering the basics (you don't have to understand it to be able to build it) and just handing the sales clerk this parts list will get you what you need.

The parts needed are:

-- Transistor: 1N4005 (Radio Shack #2030)
-- Transistor: 2N4905 (Radio Shack #2043)
-- Heat sink for above transistor
-- (two) 100-ohm, 1/2-watt resistors
-- (two) 100K-ohm, 1/4-watt resistors
-- Capacitor, 0.1 microfarad.
-- Small circuit board to mount these on.

Some notes:

-- These will work with either 6-volt or 12-volt automotive coils.

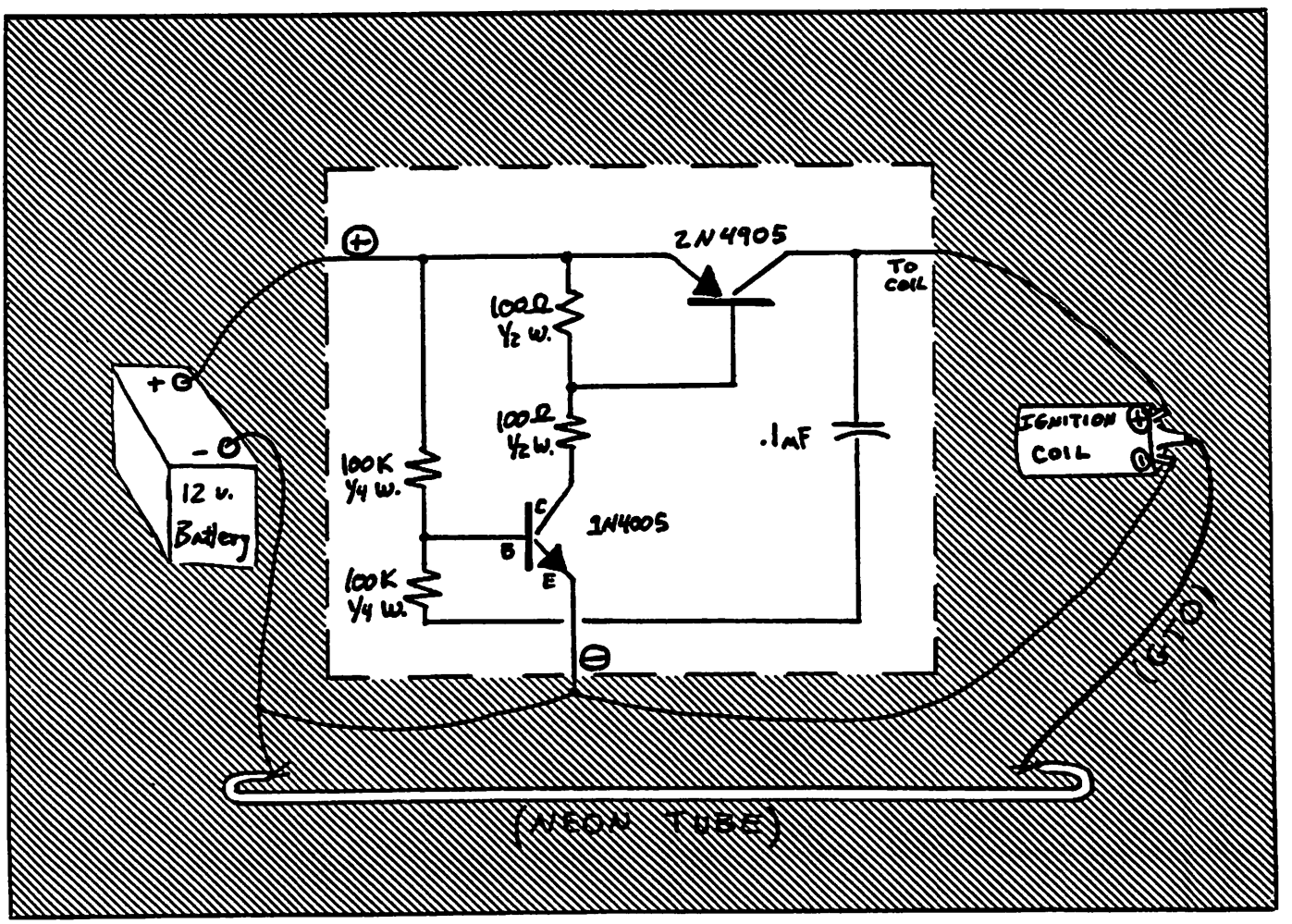
-- The input voltage can be as low as 6 volts, and I've used up to 20 volts (varying the input voltage varies the neon brightness)

-- Sometimes a "squealing" noise is created, which will go away with a different neon load, different wire length, or altered mounting of the circuit board.

-- These will handle a large amount of neon footage, and never reach a "flicker" stage. They just get dimmer with larger loads, until the "negative" end of the tube series simply doesn't light at all.

-- A 150-K potentiometer at the base of the 2N4905 transistor acts as a dimmer, and with the input voltage low causes the neon to "write."

-- Your local highway cops will love you for these.



Electrical schematic of circuit board with diagram of component wiring. Actual size of circuit board is 2" x 2".

Cuts, burns and shocks

(If this column were to have a noble purpose, it would be to warn people, through others' misfortunes, about the hazards of the trade, but I doubt we're that noble. Keep score with this "chart" (figures on right) and send us your classic moves.)

Creative burn award: leaning, without a shirt, over recently pumped (and still hot) straight tubes. ("Hey -- it wasn't my fault. I wasn't the one who pumped those tubes and the guy who did called me over to look at something next to them.")

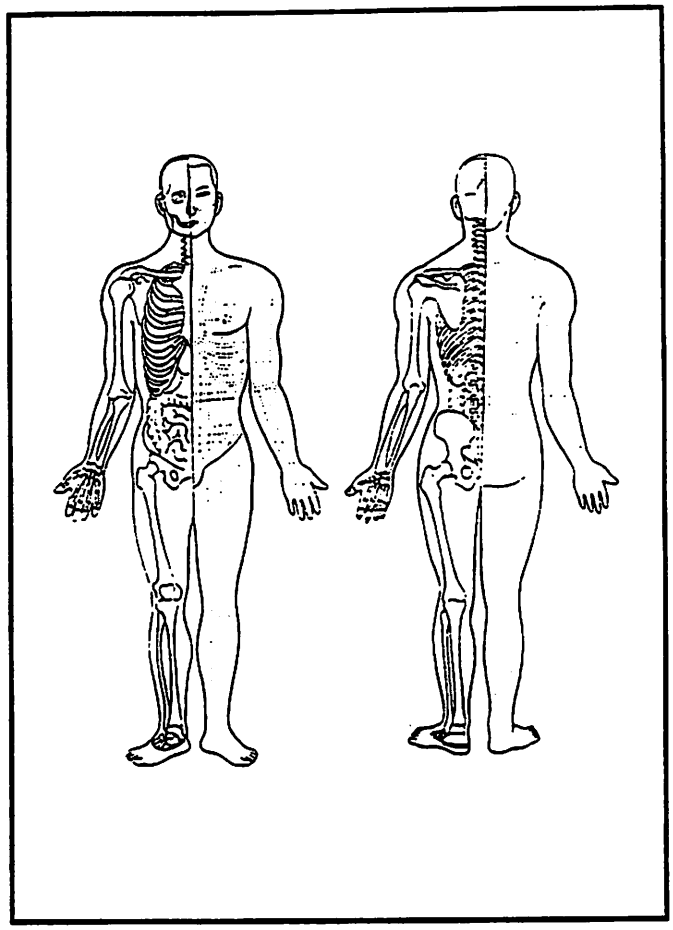
Shock award: A plex-mounted sign sent long-distance to its designer, who loved it so much that he picked it up (to see it better) & simultaneously touched both leads, shaking the whole thing in the air until it flew, smashing to bits.

Not funny dep't:

Frank Cortese, Sr. (of EGL) told me of a bender in Cincinnati who would pick up both bombarder leads, one in each hand, strike an arc across them with the foot-pedal and light his cigarette. "No, really, he knew what he was doing," Cortese said. Then one very hot day his sweat caused the arc to light him, not the cigarette. Killed him instantly.

Have you ever been shocked by a bombarder? Do you know anyone who has? How did it happen?

What safety provisions are set up on your bombarder? Do you think that it's safe enough? This is the kind of information we need to trade -- please send us your ideas.



Electronics pre-school for neon post-graduates

As basic as it gets

Many people who work with neon know little or nothing about electricity, and find themselves in the situation of wiring up transformers, checking milliamp loads and stringing tubes together without the slightest idea of what's going on, other than remembering "this is how to do it right, uh, I think this is how to do it right."

Rule #1 of this column is: There is no such thing as an utterly stupid question. Rule #2 is: If you already know much about electronics, please move on, as I'll get embarrassed. What we have here is first-graders teaching kindergartners. I hope to be able to explain a few useful things that utterly bewilder some people who work with neon.

Let's get as basic as it gets, and figure out the difference between "volts" and "amps."

There is no such thing as a volt sitting there, or an amp either. The only actual "thing" there is an electron, and lots of them. "Volts" and "amps" are just descriptive words, the same as "miles per hour" or "dozens" or "pounds per square inch."

Think of electricity as being like water. Water flows in lots of different ways, and water is easy to think about because you can see it, which is the problem most folks have with electrons: no sight equals no understanding.

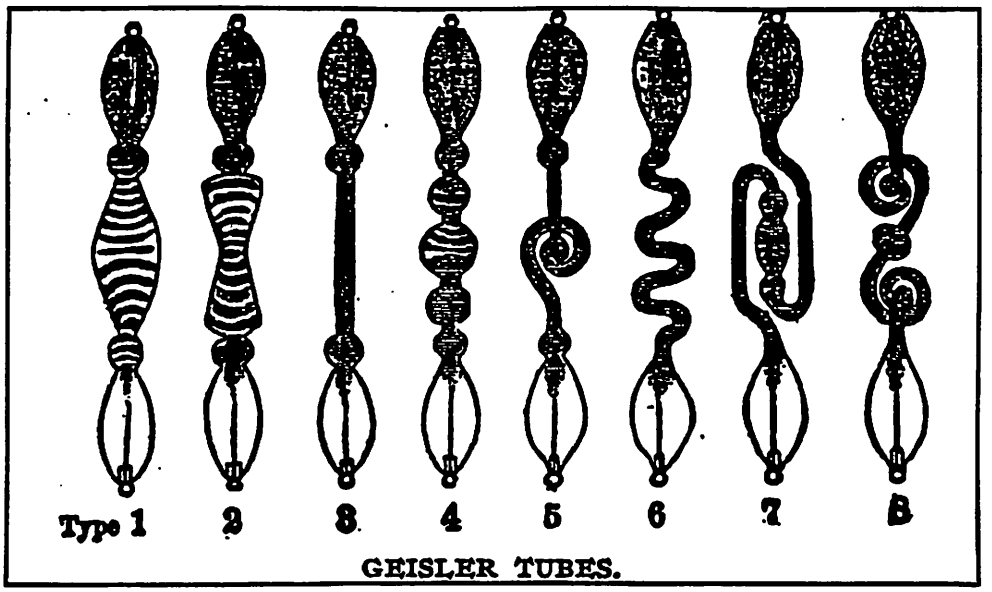
A river can be wide and slow like the Mississippi, or narrow and fast like the Snake. If the rivers were electric we'd say that the Mississippi had a lot of amperage and not much voltage. Amperage is the quantity and voltage is the pressure. The Snake is the opposite: high voltage, low amperage.

In neon, we use very high voltage and very low amperage. This is the opposite of, say, arc welding, where the voltage is only 20-35 volts but the amperage is huge, commonly 100 to 400, even up to 1200 amps. Your typical neon transformer uses 20 or 30 milliamps, and a milliamp is only 1/1000 of an amp! Roughly speaking, it's the voltage that allows the electricity to jump across the neon tube, and the amperage that controls the brightness.

In terms of how it's handled (the wiring), the high-voltage needs a very sturdy pipe (good insulation), because otherwise its great pressure will cause it to pop a hole. High-amperage, on the other hand, needs a pipe of a very large diameter, to handle the amount flowing. (If the wire is too thin, the current will cause it to heat, perhaps starting a fire.)

The way you pay your bills is with wattage. The power company doesn't care whether you white-water along with neon or sit wide and muddy with welding, they want to know how much water you used. One way or another it's all water and so it's important to be able to figure the quantity. Take out

(see Electronics, page11)



GEISLER TUBES.

The 1896 lamp of the future

From Hawkins' New Catechism of Electricity, published in 1896 by Audel Books:

The Electric Lamp of the Future

Neither of the two forms of lamp now in common use for electric lighting yields all the results that could be desired. The arc concentrates the illumination too much; the incandescent burner, while sub-dividing it, is wasteful of energy. It develops heat, and this is a net loss. The phosphorescent lamp at present requires current of too high potential and frequency of alteration to be economical. The arc lamp is yet to be touched up to more perfectly uniform action; the glow lamp is to be cheapened.

Vacuum Tube Electric Lamps

Partial vacuum tubes known as Geisler's and Crooke's have been in use for years as a source of light in which, as is generally known, the light is produced by the passage of the electric discharge through the rarefied gas of the tube. In such light there is no combustion and only very little heat.

Tubes five or six feet long, three or four inches in diameter, and of any shape, may be lighted, and shine with a bluish white light, vastly brighter than any have been lighted before. The electric terminals for these tubes are not wires sealed into them, but metallic caps upon their ends. These act inductively upon and through the residual air contained in the hermetically sealed tube.

This form of lighting has been attempted before, but the results for practical purposes have not been satisfactory. The light has not been obtained in sufficient quantity, and the apparatus necessary for producing it has been expensive and somewhat complicated, and the current employed difficult to insulate. The apparatus has now been greatly simplified and an unusual volume of light obtained from the tubes, while the current employed is under comparatively low potential.

A Geisler Tube is a glass tube containing two platinum wire terminals passing through the glass and having the air exhaused so as to leave a partial vacuum. Electric discharges or sparks pass between the two wires much more easily in a vacuum than in ordinary air. The passage of the discharge causes the air or other gas to become dimly luminous. The color of the light depends upon the kind of glass and upon the gas enclosed. Geisler tubes are sometimes made in beautiful designs. The incandescent lamp is the most common form of the Geisler tube.

Cheap bombarders

Power line transformers can be used for bombarding, as long as the KVA and high-voltage outputs are correct.

A company that sells used units is U.S. TRANSFORMER, Shakopee, MN., (612) 492-2720. They primarily outfit power sub-stations but say that yes, their two smallest units have been used for neon. Those are 10 and 15 KVA units and an April quote on the 15 KVA unit was $150.

I'm sure there must be other companies around who sell these -- our local power company doesn't (even though they routinely replace still-working units).

If you know of any other sources we'd like to print the information here. A source for cheap chokes (or variacs) would be useful too, or perhaps instructions for building your own.

Neon and the supernatural

by Audie Foote, "The Neonderthal"

I could say my troubles started the day I heard a harsh squawk and saw that a large black bird, maybe a raven or crow, had somehow gotten into my bending room and was perched high on one of the ceiling's open beams. Sure, I could say that, but the truth is they started the day I decided to learn how to make neon.

It's a known fact that neon makers talk to themselves

97.2 percent more often than folks with normal careers. There isn't a bender or installer out there who hasn't been caught having loud, detailed, and often profane discussions with various pieces of neon equipment, material, or other inanimate objects, simply because they refused to cooperate.

Why is this, you ask? Well, it's simple. It's because neon is HAUNTED, that's why. Yes, I'm talking possessed. I'm talking downright scary! Oh, I can hear you all saying, "This guy's brain is arcing out," as if I'm crazy or something -- and, of course, I am. I make neon for a living, don't I?

Let's stop here for a minute. When I say neon is haunted, I don't mean <u>all</u> neon -- just the <u>last</u> piece! And I don't care if you're bending, bombarding or installing it, that last piece is the work of the devil himself. It's the only possible explanation. You name it and it has happened while attempting the grand finale of any given job. Cracks, burns, breaks, shocks, implosions, cuts, and yes, pain -- lots of pain -- and all so close to the finish line.

Need an example? O.K., late one Friday after a long, successful day making neon, I came down to "The Final Weld." And as I mumbled softly, almost reverently, to the glass, "Come on baby, make this last move for daddy so he can go home," I heard this loud sickening CRACKING noise

followed by shards of glass hitting the floor. Teeth start to grind, mild indigestion kicks in along with the perfunctory increase in sweating and breathing.

For some unknown reason -- you can call it "fate" if it makes you feel better -- it takes an additional two hours to repair the damage which would ordinarily take 7.2 minutes. Exhaustion, anxiety, and "that burning sensation" are full bore at this point. Now, just fill this tube with neon and everybody's happy and I can go home for the weekend, right? ...WRONG!!!

Here I am, tired, hungry, possibly hallucinating with a form of neon vertigo common after ten hours on my feet making double-stroke channel letters, and I find this final piece is perfect but part of the manifold has developed a leak the size of the Lincoln Tunnel. "Squawk!" (there's that damned bird again). As glass flies around the room and my eyeballs roll back into my head, "BE GONE EVIL DEMON!" -- did I say that? It was horrible, just horrible, but alas, typical -- just typical.

I don't know about Dr. Jekyl, but I know that dude Mr. Hyde specialized in neon equipment. It's as if evil spirits talk to neon-makers with weird symbols and cryptic logos -- everything's in reverse of course (like people playing Beatles' music backwards to hear the devil's voice). By the way, I'm not the first to realize this association of neon with the supernatural. There's been a rash of movies dealing with the

subject, like "Neon on Elm Street," "The Shining," "Amityville Neon," and this summer's smash, "Glassbusters II."

I should have heeded the warning of one old-time bender who said to me years ago, "Son, there's no such thing as good benders or bad benders -- just lucky and unlucky ones." I never did listen to anybody.

And so I leave you with this thought for those still brave enough to go back into "the Room." The word neon in reverse is NOEN (no end?) which is from the Latin root meaning "you ain't going anywhere, chump, you got that last piece of neon to make."

Job in hell, from page 1

He needed it that afternoon, and I screwed up on the first double-back so I started cutting the piece back and back, and meanwhile the whole other piece rolled off the table and broke into bits.

So I was really freakin' out then. What am I going to do? I just used the old pieces, welded them all together -- three welds in a five-foot straight tube.

Then the manifold went to hell. First it started filling tubes with air. I was scared of the manifold 'cause I'd never really learned how to operate one. I had a piece of paper with all the instructions written down, but I lost it back home.

When I started fixing the manifold, I found a leak in one of the welds, using the spark tester. I repaired that and it still didn't work. Alan had told me that he had knowledge of neon, so I went to him for help.

He comes over with the spark tester and jams it right on the glass and runs it around and around the welds until it pokes a hole -- "There's a leak there," does it again, "there's another leak there." I chopped it up, welded it together and now there's these big, black, bunchy welds and Alan comes out again and pops another hole in it.

I'm trying to tell him "from what I've been taught, you're not supposed to stick the spark tester too close," but he said, "The old-timers that I used to work with showed me this way." So he proceeded to poke many holes in it, and every 2 or 3 inches around the whole manifold there are big black welds. By that time it was so screwed up I could barely do anything.

Alan was skeptical. We had this big job to do -- 1,400 feet of straight tubing, all white -- but they were coming off the manifold all orange. They were burning in, though, after about a half-hour, and it seemed to help if I stood there and rolled the mercury back and forth.

So I'm thinking it couldn't be a leak in the manifold any more, and I called my friend Ed (a bender back home) and he said, "Don't tell anyone, but put a little dab of silicone around the joints, just to see if that will seal anything up." He also asked what kind of gas I was using, and told me that the 1051 mixture comes with a sort of orangish tint to it. So I told Alan, "Well, don't worry about it, it's just the gas, made for `outdoor,' and that's the color of it."

So I finally am getting going with this big job, and the bending table is coated with a layer of slate or something, cold to the touch, rock hard, and I have no idea about the effect of a cold table on a hot tube.

I proceeded to bust every single straight tube that I would make (rolling them out on the table) -- it would snap, a half-inch from the weld. Finally Dick (shop foreman) comes up, and the first of the suggestions started.

"Maybe you should move your torches," and so we tried moving them to different locations, to avoid drafts. Dick finally called up the tubebender who worked there a ways back, and said, "Richard says you can't use the cannon fire for welds, you gotta use the crossfire." So I thought that was the answer, and then I was doing the same thing with the crossfire -- just busting and busting and busting tubes. Finally I got out a roll of asbestos, and used that to roll them out on... And after two weeks, putting in 10- to 14-hour days, I was able to put out six tubes a day...It really wasn't going too good.

Everybody sort of came up and gave their two bits about what was wrong with the manifold -- the graphic-arts guy "Well, maybe this is leaking over here," all the installers and everybody, each had a little bit different piece of advice, and I didn't know any better not to believe 'em -- I was sort of hurting for anything then.

I was trying everything that everyone said and really proceeding to destroy that manifold. It was in really bad shape as it was -- really old -- all the stopcocks were ancient. They didn't have any replacement ones, except their old ones. I tried welding 'T' joints, which I'd never done before -- I'd seen an instructor do it once -- I was trying all day to make a decent 'T' joint and still couldn't do that, and I proceeded to bust the stopcocks back to within 1/4" of their bodies.

We had this big job to do -- 1,400 feet of straight tubing, all white -- but they were coming off the manifold all orange. They were burning in, though, after about a half-hour, and it seemed to help if I stood there and rolled the mercury back and forth.

I'd gotten the name of a bender in town from the same neon school, and I called him and he came over, looked at the manifold for 10 seconds and said it needed complete rebuilding, which he did. He spent the whole evening doing it, and said he'd have me come over and pump tubes for him someday.

Alan hadn't been there, and was really upset about "having the competition's tubebender over here, having to fix our manifold." He was pretty ticked about that.

By now my image of being a tubebender was completely shattered -- I felt like I didn't know a thing about it. When I left the school they said, "You're a tubebender now" and I didn't know any better, because I hadn't been in any shops.

I finally got the job done, and then did my first exposed sign. It said "Rosebuds" and took about 4 days to make, but I didn't know that was bad. I thought I was doing good, I thought it looked good, so I went to Alan: "Come look at my sign!" and he wouldn't come out of the office. Wouldn't even talk to me.

After that, nothing really went right. The manifold worked okay, but they weren't pumping down. He had a little half-gallon milk-carton "Hyvac" pump chugging away, and he only replaced it after everyone who walked in the place told

(see Job in hell, page 11)

Letters
Our readers bombard us:

For this first issue, I'm going to just put in a few words from people's letters, both because they probably didn't expect their words to see print, and to show how easy it is to be a Neon News "correspondent." But mostly we'll empty the mail file:

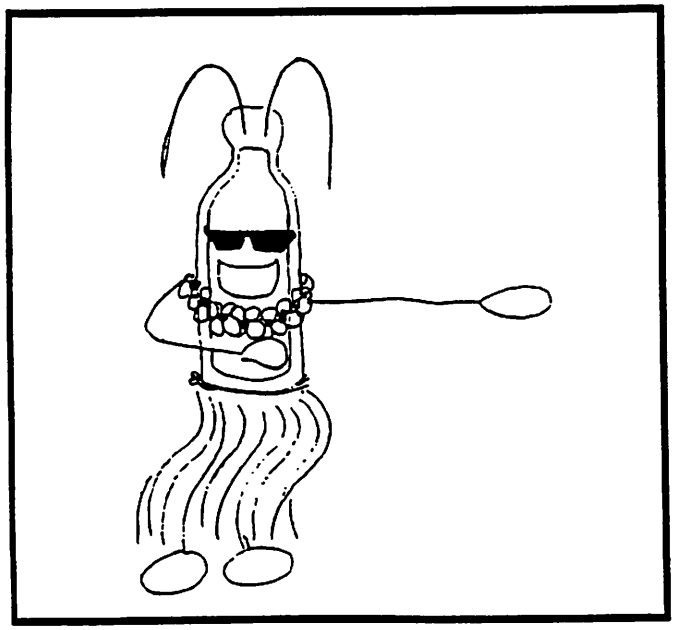
Some interesting leads from Neon Specialist Al McCann in Fort Smith AK, who sent us the name of a metal manifold specialist and also a 1985 newspaper article that mentioned old benders who colored their own glass. Anyone else know of someone doing this?

Susan Steinberg at Maryland's Savage Neon has some questions:

* Where is Per Wallin?
* What's the best way to deal with 8mm coated glass -- seems to cool off too fast on the screen -- cracks and frustration.
* Is there (or does there need to be) a milliampmeter for electronic transformers?
* Where can I have beer sign frames custom made, or does someone stock them?
* What is the best, most efficient and quiet air blower available?
* What are the advantages /drawbacks of using an air compressor?
* I'd like to see examples of retail neon shop advertising.

"Most interesting job to date: exhibiting the original black wool bathing suit which Marilyn Monroe wore in "Some Like It Hot" using magenta tubing to emphasize a curvaceous outline!"

An Iowa bender, Norbert Poeschl of Sign Tech, "would like to hear from other tube benders as to what method they have found successful in cleaning up uncoated Ruby Red to prepare it for bending and pumping."



(Electronics, from page 7)

the calculator (does anyone really do it by hand any more?) and plug in the numbers:

Volts times Amps equals Watts (VxA=W).

Transformer footage charts usually indicate the wattage of the various transformers -- this is how you can compare how much power the neon is drawing compared to how much power a light bulb would draw.

(This is the first of about 16 columns that will eventually lead to <u>how</u> a transformer works, and other incredibly fascinating things.)

(Job in hell, from page 10)

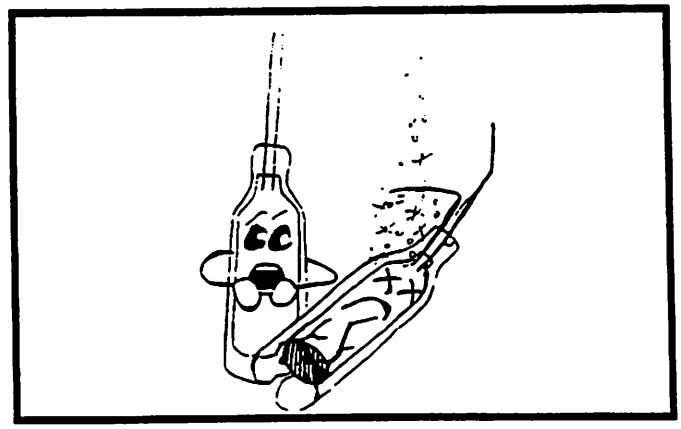
him to.

I was only there a couple months, and didn't put out too much work. I had even more trouble with the manifold -- I busted off one of the 'T' joints when I was replacing a flask, and broke a stopcock too. Alan sent me to a chemical supply house -- "go buy a stopcock," and they only had pyrex ones. I thought that maybe that was only a brand name but I checked with Alan to make sure -- "oh yeah, go ahead and buy it". Welded it on to the flask, and a couple seconds later "chink!" and it would fall off. Do it again, do it again, and finally I gave up. I was lost, didn't know what to do, and called another tubebender in town. Finally I got it working.

One night I'd been working on the manifold all night and Alan told me to shut everything down, and when I came to his office he told me he couldn't keep me on. I was shocked -- I knew I'd been having problems but I thought I was getting the work out. I had no idea how much I should be producing.

He'd found another bender to hire, and I'd just signed a lease on my apartment the day before. After a few days, though, he said it'd be okay to keep me on as a helper, and when the other guy came I pumped his tubes, and then they ran out of work for him, and so I got laid off.

Got a job at another place, where I worked under another bender, and things got better.



Cartoons by Matt Thompson

CLASSIFIED ADS

Instruction available -- learning without suffering -- six-week course. Savage Neon: (301) 604-2525.

Neon sign postcards in full color. Buster Brown, Mobilgas Flying Horse, Simple Simon, etc. Seven assorted for $4. Fifty for $13.50. Len Davidson, 860 N. 26th St. Philadelphia, PA 19130. (215) 232-0478.

The Bulletin Board is a free service to subscribers, for information exchange, general questions, love letters, etc. (In this first issue the letters column has these items.)

The Classified Ads are for selling, hiring, and general commerce. Ads are 25 cents per word, payable in advance. Deadline for the fall issue is September 1.

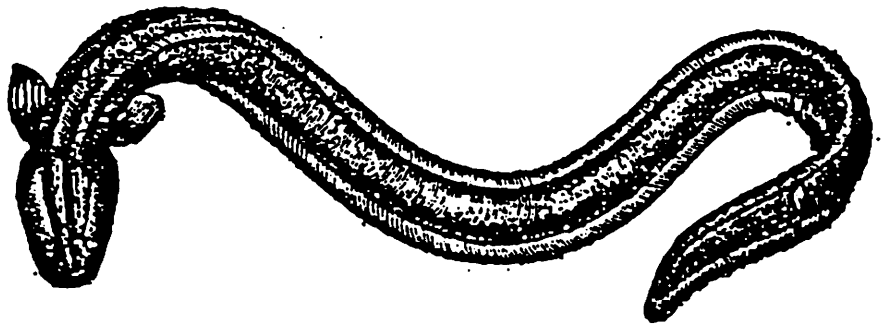
The Gallery Listings is intended to serve as a general source-list for galleries around the country.

GALLERY LISTINGS

Museum of Neon Art (MONA): "Light Years" by Jan Sanchez, through Sept. 2. Then a six-artist group show...

A Florida subscriber told us that three galleries in the Miami area handle neon art (besides what she called the "gift-shop galleries"). We didn't call to check them out, but want to include them and other galleries for benders who want to know where they can market art works. They are:

Habitat, Gallerie Ninety-Nine and Hokin Gallery. Please send us other listings for galleries in your area that have shown neon art!



THE ELECTRIC EEL.

Under the alluring heading of "animal electricity," the 1896 Catechism of Electricity notes these true facts about our friend Torpedo the eel: He "is provided with an electric organ on the back of its head, as shown in the illustration on this page. This organ consists of laminae composed of polygonal cells to the number of 800 or 1000, supplied with four large bundles of nerve fibres; the under surface of the fish is - (negative), the upper + (positive). It is able to give a most terrible shock, and is a formidable antagonist when it has attained its full length of five or six feet."

THE NEON NEWS